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EXAMINER

TIBBITS, PIA FLORENCE

ART UNIT	PAPER NUMBER
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2838

DATE MAILED: 09/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/604,703	Applicant(s) ELDER ET AL.	
	Examiner Pia F. Tibbits	Art Unit 2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 88-105 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 88-105 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>4/28/06(2 pgs)</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

This Office action is in answer to the amendment filed 6/15/2006. Claims 88-105 are pending, of which claim 88 is amended.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 88, 95, 104, 105 are rejected under 35 U.S.C. 102(b) as being anticipated by **Pacific**

Dunlop of Australia brochure on Exide Switch Technology [hereinafter Exide Switch Technology].

Exide Switch Technology discloses on page 1 an apparatus for reliably supplying electrical energy to an electrical system connected between a system positive terminal and a system negative terminal, the apparatus comprising:

main battery/main unit housing a main positive output and a main negative output, the main negative output being connected to the system negative terminal;

at least one standby battery/reserve unit having at least one standby positive output and at least one standby negative output, the at least one standby negative output being electrically connected to the system negative terminal;

a one-way charging circuit/diode electrically connected between the main positive output and the at least one standby positive output, the one-way discharging circuit configured to facilitate discharging of and prevent current flow from the at least one standby battery at all times during which the main battery is supplying electrical energy to the electrical system; and

a switching device/Exide Switch operable in two operating positions to at least selectively electrically connect the system positive terminal to one of the main positive output and the at least one standby positive output, the switching device being operable in a first operating position/"push the switch

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back to the main battery/unit" to electrically connect the main positive output to the system positive terminal and electrically disconnect the system positive terminal from the at least one standby positive output, the switching device being further operable in a second operating position/"push switch to the live reserve unit" independent of the first operating position to electrically connect the at least one standby positive output to the system positive terminal and electrically disconnect the system positive terminal from the main positive output, wherein, when the switching device is in the first operating position, the main battery is the sole source of electrical energy to the electrical system and wherein when the switching device is in the second operating position, the at least one standby battery is the sole source of electrical energy to the electrical system, such that the main battery and the at least one standby battery never supply electrical energy to the electrical system simultaneously.

As to claim 95, 104, see remarks and reference above.

As to the method claim 105: the method steps will be met during the normal operation of the apparatus described above.

3. Claims 88, 95, 104, 105 are rejected under 35 U.S.C. 102(b) as being anticipated by **GB-2220112** [hereinafter GB].

GB discloses in figures 1-3 an apparatus for reliably supplying electrical energy to an electrical system connected between a system positive terminal and a system negative terminal, the apparatus comprising:

main battery/main unit housing a main positive output and a main negative output, the main negative output being connected to the system negative terminal;

at least one standby battery/reserve unit having at least one standby positive output and at least one standby negative output, the at least one standby negative output being electrically connected to the system negative terminal;

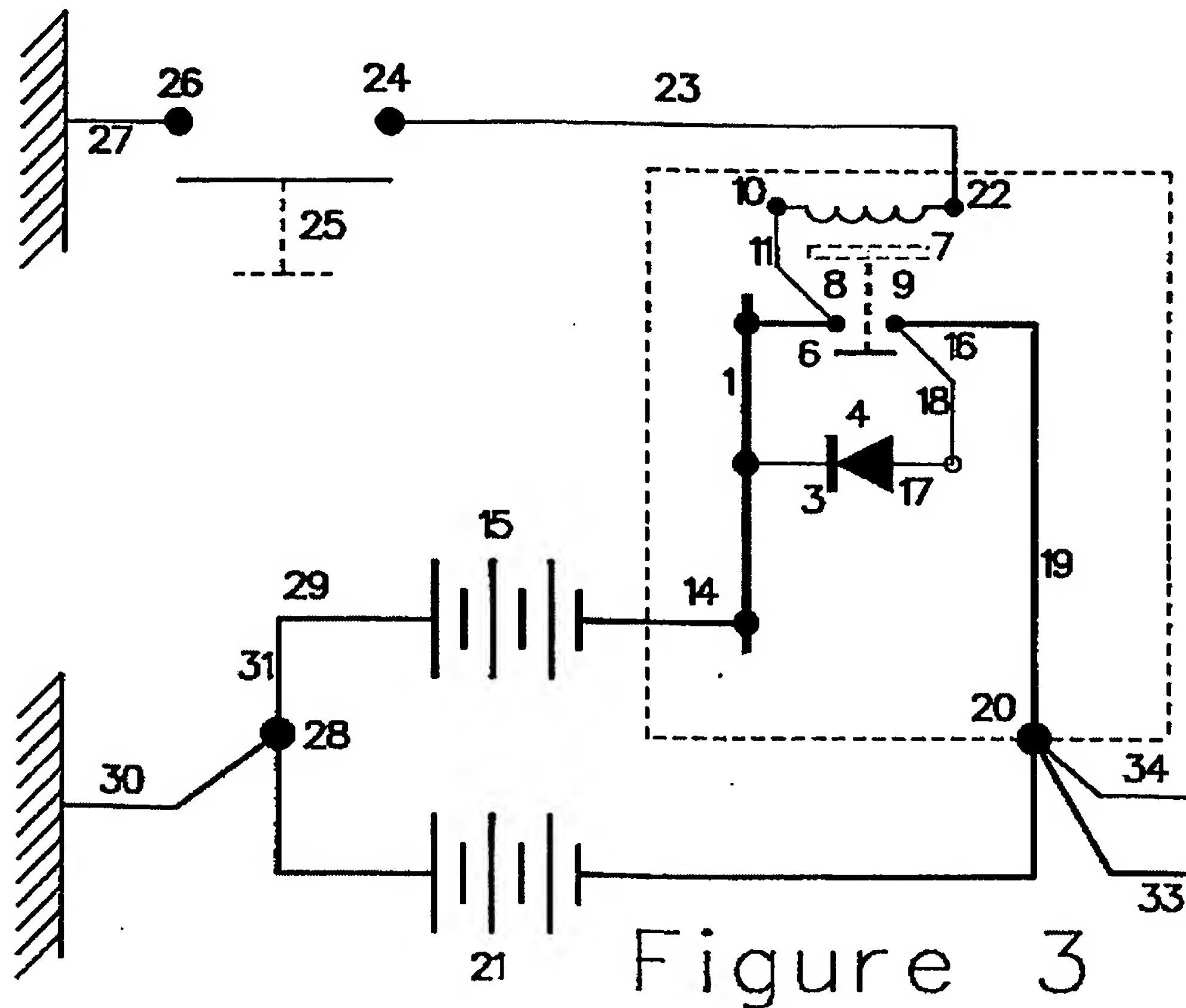
a one-way charging circuit/diode electrically connected between the main positive output and the at least one standby positive output, the one-way discharging circuit configured to facilitate discharging

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of and prevent current flow from the at least one standby battery at all times during which the main battery is supplying electrical energy to the electrical system; and

a switching device [see fig.3] operable in two operating positions to at least selectively electrically connect the system positive terminal to one of the main positive output and the at least one standby positive output, the switching device being operable in a first operating position/"push the switch back to the main battery/unit" to electrically connect the main positive output to the system positive terminal and electrically disconnect the system positive terminal from the at least one standby positive output, the switching device being further operable in a second operating position/"push switch to the live reserve unit" independent of the first operating position to electrically connect the at least one standby positive output to the system positive terminal and electrically disconnect the system positive terminal from the main positive output, wherein, when the switching device is in the first operating position, the main battery is the sole source of electrical energy to the electrical system and wherein when the switching device is in the second operating position, the at least one standby battery is the sole source of electrical energy to the electrical system, such that the main battery and the at least one standby battery never supply electrical energy to the electrical system simultaneously [see fig.3; page 5].

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It should be understood that the above description applies to vehicles with a negative earthed chassis. However, it is within the scope of this invention that by reversing all the polarities mentioned above the invention may also be used on vehicles having a positive earthed chassis.

As to claim 95, 104, see remarks and reference above.

As to the method claim 105: the method steps will be met during the normal operation of the apparatus described above.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 89-92, 94, 96, 97 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Pacific Dunlop of Australia brochure on Exide Switch Technology**, as described above.

As to claim 89, Exide Switch Technology does not disclose the main battery is one of a six-volt, a twelve-volt, or a twenty-four volt battery.

As to claim 89, the main battery is one of a six-volt, a twelve-volt, or a twenty-four volt battery: the use of a six-volt, a twelve-volt, or a twenty-four volt battery as a main battery, absent any criticality, is only considered to be the use of "optimum" or "preferred" material that a person having ordinary skill in the art at the time the invention was made using routine experimentation would have found obvious to provide for the main battery/main unit disclosed by Exide Switch Technology in order to accommodate an application specifics, since it has been held to be a matter of obvious design choice and within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use of the invention. See *In re Leshin*, 125 USPQ 416. *In re Aller*, 105 USPQ 233 (CCPA 1955), *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

As to claim 90, Exide Switch Technology does not disclose the standby battery is one of a six-volt, a twelve-volt, or a twenty-four volt battery.

As to claim 90, the standby battery is one of a six-volt, a twelve-volt, or a twenty-four volt battery: the use of a six-volt, a twelve-volt, or a twenty-four volt battery as a standby battery, absent any criticality, is only considered to be the use of "optimum" or "preferred" material that a person having ordinary skill in the art at the time the invention was made using routine experimentation would have found obvious to provide for the standby battery/reserve unit disclosed by Exide Switch Technology in order to accommodate an application specifics, since it has been held to be a matter of obvious design choice and within the general skill of a worker in the art to select a known material on the basis of its

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suitability for the intended use of the invention. See *In re Leshin*, 125 USPQ 416. *In re Aller*, 105 USPQ 233 (CCPA 1955), *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

As to claim 91, Exide Switch Technology does not specifically disclose a battery housing that includes a main battery compartment and at least one standby battery compartment, the main battery compartment containing the main battery, and the at least standby battery compartment containing the at least one standby battery. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make separable the main battery compartment containing the main battery and standby battery compartment containing the standby battery in order to allow for easier positioning around the engine, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *In re Dulberg*, 289 F.2d 522, 523, 129 USPQ 348, 349 (CCPA 1961). See MPEP 2144.04.

As to claim 92, Exide Switch Technology does not specifically disclose the main battery compartment located atop the at least one standby battery compartment: as to the particular location of the main battery compartment, i.e., located atop the at least one standby battery compartment, absent any criticality, is only considered to be an obvious modification as it has been held by the courts that there would be no invention in shifting the location of a structure of a device to another location if the operation of the device would not thereby be modified. *In re Japikse*, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950) MPEP 2144.04.

As to claim 94, Exide Switch Technology does not specifically disclose wherein the battery housing has external dimensions characteristic of a conventional vehicle battery housing: the use of a battery housing that has external dimensions characteristic of a conventional vehicle battery housing, absent any criticality, is only considered to be the use of "optimum" or "preferred" material that a person having ordinary skill in the art at the time the invention was made using routine experimentation would have found obvious to provide for the standby battery/reserve unit disclosed by Exide Switch Technology in order to accommodate an application specifics, since it has been held to be a matter of obvious design choice and within the general skill of a worker in the art to select a known material on the basis of its

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suitability for the intended use of the invention. See *In re Leshin*, 125 USPQ 416. *In re Aller*, 105 USPQ 233 (CCPA 1955), *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

As to claim 96, Exide Switch Technology does not specifically disclose the one way charging circuit has an amperage rating between 25 and 95 amps: the use of a one way charging circuit has an amperage rating between 25 and 95 amps, absent any criticality, is only considered to be the use of "optimum" or "preferred" material that a person having ordinary skill in the art at the time the invention was made using routine experimentation would have found obvious to provide for the standby battery/reserve unit disclosed by Exide Switch Technology in order to accommodate an application specifics, since it has been held to be a matter of obvious design choice and within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use of the invention. See *In re Leshin*, 125 USPQ 416. *In re Aller*, 105 USPQ 233 (CCPA 1955), *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

As to claim 97, see remarks and references above.

6. Claim 93 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Exide Switch Technology**, as described above, in view of **Geibl et al.** [hereinafter Geibl][6143438].

Exide Switch Technology does not disclose the battery housing further comprising at least one fill tube.

Geibl discloses in fig.6 a fill tube 104, which is part of a battery housing 106 to allow electrolyte to be added to the cells and to permit servicing, if required, during the life of the battery [see column 1, lines 47-49]. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Exide Switch Technology's apparatus and include a fill tube, as disclosed by Geibl, in order to allow electrolyte to be added to the cells and to permit servicing, if required, during the life of the battery.

7. Claims 99, 100 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Pacific Dunlop of Australia brochure on Exide Switch Technology**, as described above, in view of **JP-0568036**.

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Exide Switch Technology does not disclose a controller coupled to the main battery, the at least one standby battery, and the switching device, the controller operable to control operation of the switching device based on one or more operating parameters of the main battery and the at least one standby battery.

JP discloses in the abstract and figures 1-7 a battery switching system including a controller 5 where when the output of a main battery 1 drops below a predetermined level, power supply to a vehicle driving system 4 is switched from the main battery 1 to an auxiliary battery 2 by means of a switch 3 while at the same time, a display 6 is also switched from the main battery to the auxiliary battery to provide a battery switching system in which an operator is notified the fact that a vehicle is driven through an auxiliary battery upon switching from a main battery to an auxiliary battery. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Exide Switch Technology's apparatus and include a battery switching system including a controller, as disclosed by JP, in order to provide a battery switching system in which an operator is notified the fact that a vehicle is driven through an auxiliary battery upon switching from a main battery to an auxiliary battery.

As to claim 100, Exide Switch Technology discloses a test program including vibration, discharge amps, temperature [see page 2].

8. Claims 99-102 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Pacific Dunlop of Australia brochure on Exide Switch Technology**, as described above, in view of prior art disclosed by applicant in the specification [hereinafter Prior Art] in view of **Cook et al.** [6734651].

Exide Switch Technology does not disclose a discharge cycling system coupled to the switching device and operable to periodically discharge the at least one standby battery.

Prior Art discloses discharge cycling of the reserve battery is known [see paragraph 0013].

Cook discloses a multiple battery system for a vehicle comprises a primary battery; a reserve battery electrically connectable to the primary battery; and a control unit with a relay switch electrically connected between the primary and reserve batteries. The relay switch is operable on a timer

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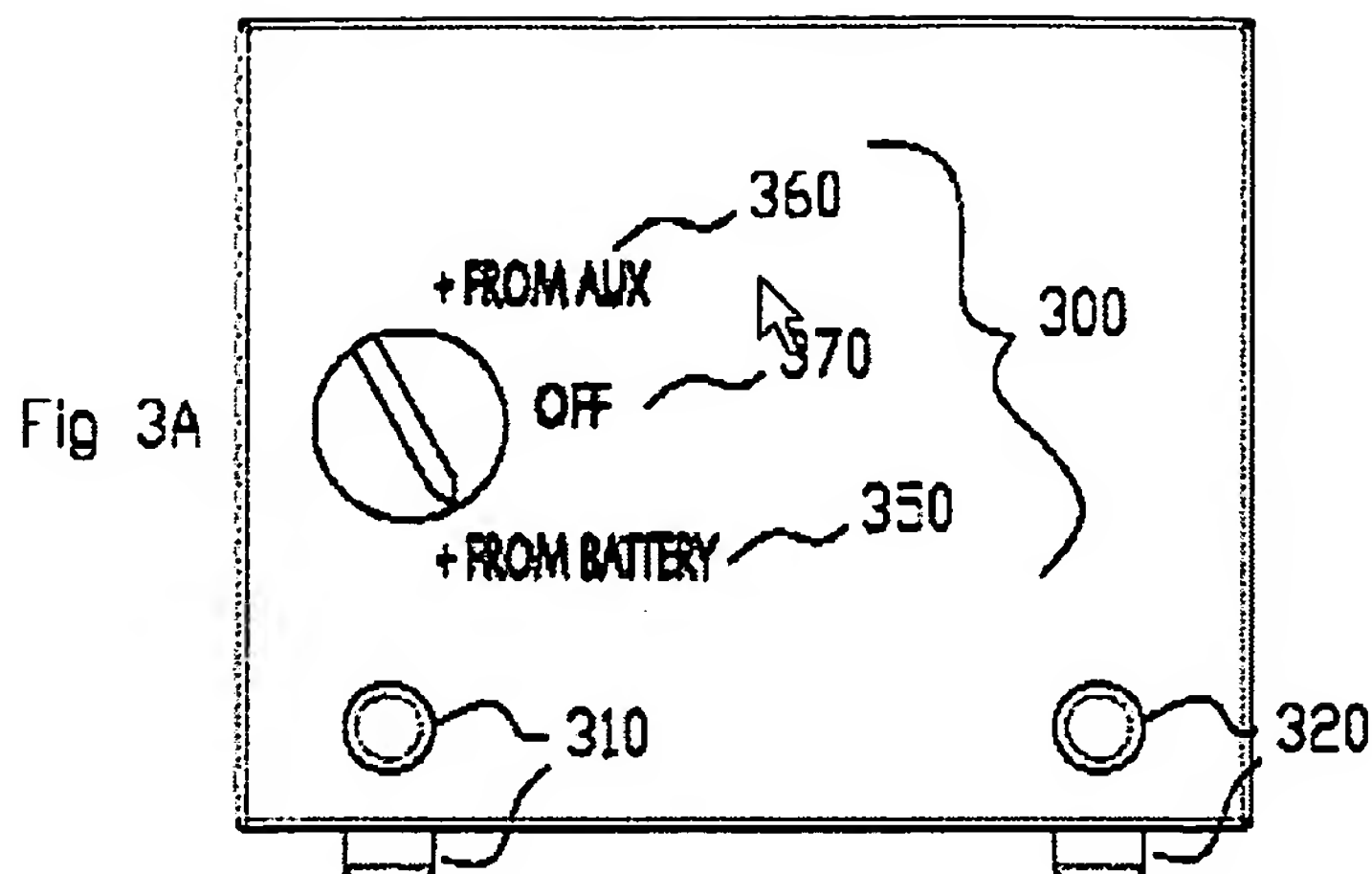
circuit 140 selected to create a predetermined time period during which the relay switch 120 remains closed. After the predetermined time period, the relay switch 120 returns to the normally open position to switch the reserve battery 14 out of the vehicle's electrical circuitry. In this manner, further discharge of the reserve battery is prevented. This feature is especially advantageous over the prior art relay switches that must be manually switched from an open position to a closed position prior to cranking the engine and switched again to the open position after the engine starts, since it is no longer necessary for the user to remember if the relay switch has been returned to the open position. In this manner, the reserve battery 14 is not subject to the same charge and discharge conditions of the primary battery 12, and therefore will be ready for use when the primary battery is insufficient for starting the motor and/or operating vehicle accessories [see column 6, lines 19-35]. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Exide Switch Technology's and Prior Art's apparatus and include a timer controlling charge and discharge/cycling conditions of the standby/reserve battery, as disclosed by Cook, in order to prevent subjecting the standby/reserve battery to the same charge and discharge conditions of the main/primary battery, and therefore be ready for use when the primary battery is insufficient for starting the motor and/or operating vehicle accessories.

As to claims 101, 102, see remarks and references above.

9. Claims 98, 103 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Pacific Dunlop of Australia brochure on Exide Switch Technology**, as described above, in view of **Krieger et al.** [6377029].

As to claim 98, the originally filed specification lacks antecedence for a "**third operating position**". The amendment to the specification filed 11/23/2005 introduces a "tertiary or storage operating mode or position 370". However, fig. 3A describes this tertiary or storage operating mode or position 370 as "**OFF**". An "OFF" position is a **non-operating** position.

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Exide Switch Technology does not disclose a three-position switching device.

Krieger discloses in figures 1-4A a three-position switch, whose positions correspond to "On," "Off/AC Recharge," and "DC Recharge" [see column 4, lines 2-5]. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Exide Switch Technology's apparatus and include a three-position switching device, as disclosed by Krieger, in order to allow for recharging of the vehicle batteries.

10. Claims 88, 95, 104, 105 are rejected under 35 U.S.C. 102(b) as being anticipated by **Leppo et al.** [6172478][hereinafter Leppo].

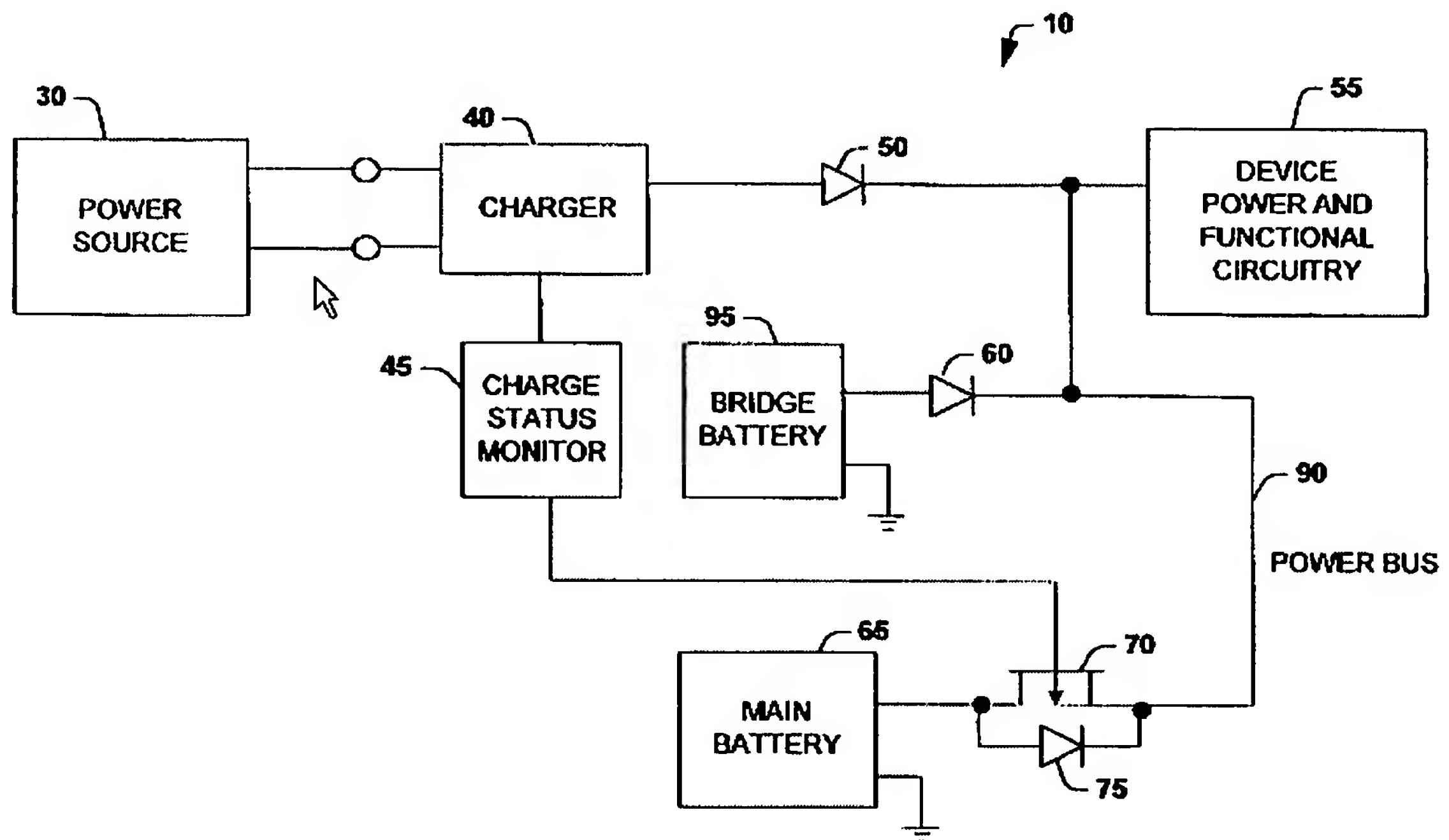
Leppo discloses in figures 1-6 an apparatus for reliably supplying electrical energy to an electrical system connected between a system positive terminal and a system negative terminal, the apparatus comprising:

main battery/main unit housing a main positive output and a main negative output, the main negative output being connected to the system negative terminal;

at least one standby battery/reserve unit having at least one standby positive output and at least one standby negative output, the at least one standby negative output being electrically connected to the system negative terminal;

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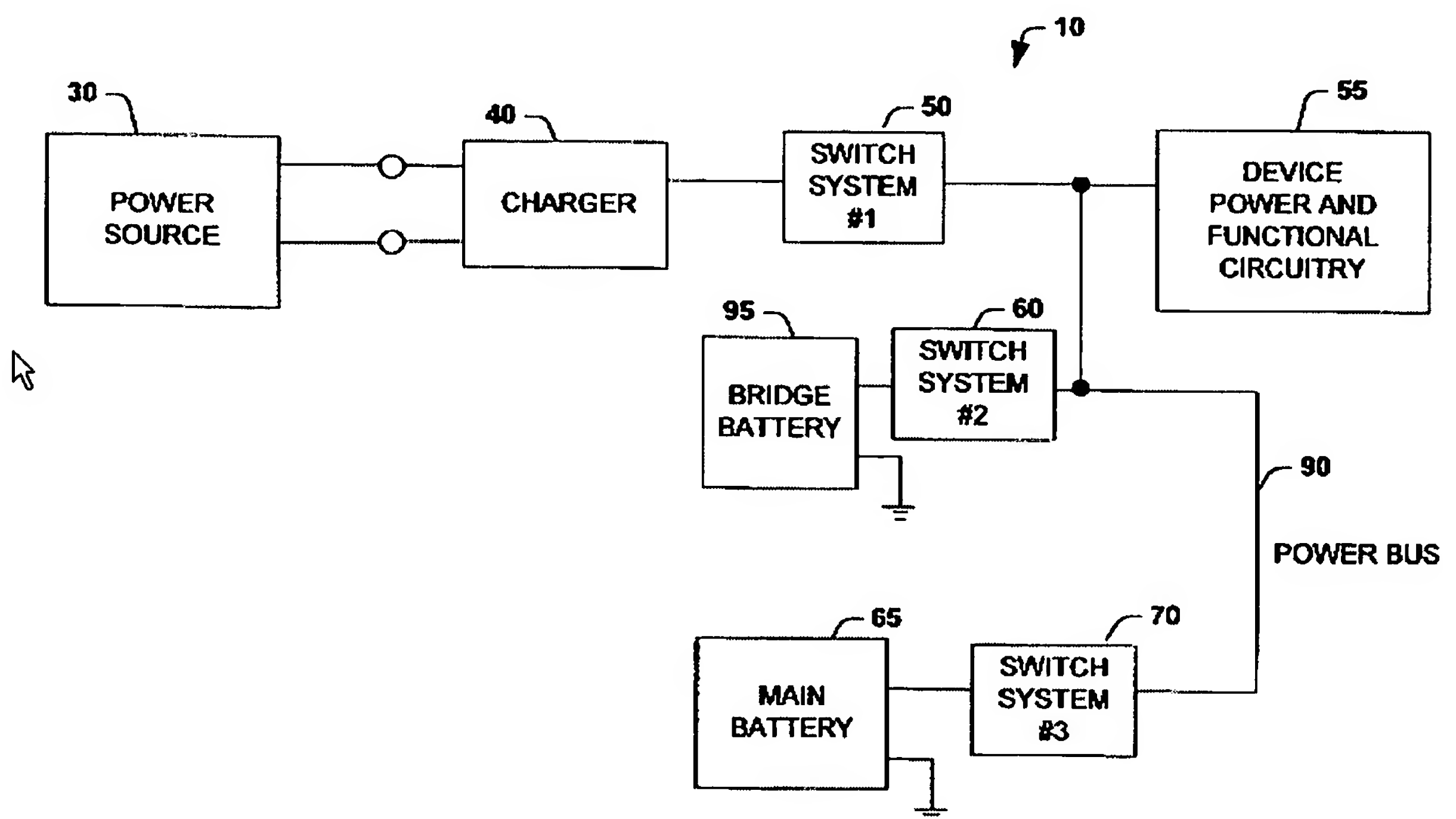
a one-way charging circuit/diode electrically connected between the main positive output and the at least one standby positive output, the one-way discharging circuit configured to facilitate discharging of and prevent current flow from the at least one standby battery at all times during which the main battery is supplying electrical energy to the electrical system.

**Fig. 1**

Leppo does not disclose a switching device operable in two operating positions to at least selectively electrically connect the system positive terminal to one of the main positive output and the at least one standby positive output, the switching device being operable in a first operating position/"push the switch back to the main battery/unit" to electrically connect the main positive output to the system positive terminal and electrically disconnect the system positive terminal from the at least one standby positive output, the switching device being further operable in a second operating position/"push switch to the live reserve unit" independent of the first operating position to electrically connect the at least one

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standby positive output to the system positive terminal and electrically disconnect the system positive terminal from the main positive output, wherein, when the switching device is in the first operating position, the main battery is the sole source of electrical energy to the electrical system and wherein when the switching device is in the second operating position, the at least one standby battery is the sole source of electrical energy to the electrical system, such that the main battery and the at least one standby battery never supply electrical energy to the electrical system simultaneously.

**Fig. 1a**

However, Leppo discloses in the abstract

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are also both coupled to the power bus through diodes. The predetermined voltage level is set with respect to the charging system, the main battery and the bridge battery, such that if all three are coupled to the bus, the recharging system both powers the unit and recharges the main battery. If the recharging system is removed, the main battery power system powers the portable device, and if the main battery power system is removed the bridge battery will provide power to the portable device. The distribution system also includes

in other words either the main battery or the standby/bridge battery powers the system.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to make integral the control for the main battery or the standby/bridge battery, since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routing skill in the art. *In re Larson*, 340 F.2d 965, 968, 144 USPQ 347, 349 (CCPA 1965). See MPEP 2144.04.

As to claim 95, 104, see remarks and reference above.

As to the method claim 105: the method steps will be met during the normal operation of the apparatus described above.

Response to Arguments

11. Applicant's arguments with respect to the claims have been considered but are not persuasive.

a) the Exide Switch Technology brochure is of record on the face of the patent (and is open to public inspection, pursuant to 37 CFR 1.14(a)) issued to **Klebenow et al.** [5002840], provided by the applicant as Prior Art of record.

b) Dual power sources are well known in the art as evidenced by the new rejections above.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in PTO-892 and not mentioned above disclose related apparatus: **JP-2001021974** discloses in the abstract and fig.5 an apparatus for reliably supplying electrical energy to an electrical system from a main battery 256, at least one standby battery 257, a one-way charging circuit/diode 253, and switching devices 252 and 254. **Tanaka** [5154985] discloses in figures 1-11 a battery housing 10 that includes a main battery compartment and at least one standby battery compartment [see fig.2], the main battery compartment containing the main battery 38, and the at least standby battery compartment containing the at least one standby battery 42. **Witehira et al.** [5175484] discloses a dual power system maintaining the power sources in electrically separate condition.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Pia Tibbits whose telephone number is 571-272-2086. If unavailable, contact the Supervisory Patent Examiner Karl Easthom whose telephone number is 571-272-1989. The Technology Center Fax number is 571-273-8300.

3. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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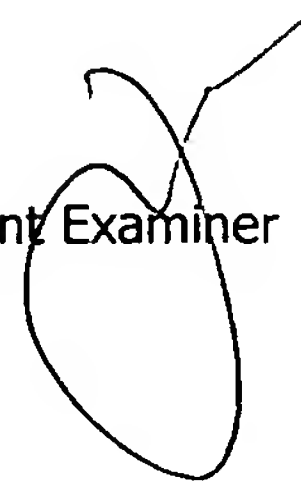
you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PFT

August 28, 2006

Pia Tibbits

Primary Patent Examiner

A handwritten signature in black ink, consisting of a large, stylized 'P' and 'T' that are connected, with a small loop at the end of the 'T'.